

Waste prevention country profile

Denmark

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European Environment Agency



Country profile: Denmark

General information

Name of the country/ region	Denmark
Coverage of the waste prevention programme (national/ regional)	National
Type of programme (stand alone or integrated into waste management plan)	Integrated into Denmark's Circular Economy Action Plan - National Plan for Prevention and Management of Waste 2020-2032
Title of programme and link to programme	Handlingsplan for cirkulær økonomi (Action Plan for Circular Economy) https://mim.dk/miljoe/handlingsplan-for-cirkulaer-oekonomi/
Duration of programme	2021 until 2032
Language	Danish and English
Contact person in the country/region	Ida Marie Sandvik, Miljøministeriet idams@mims.dk
Development process of the programme/ revision	<p>The Danish Government's Action Plan for Circular Economy constitutes the national plan for the prevention and management of waste for 2020-2032. The action plan was drafted in 2020 and sent for consultation in December 2020. The final plan was published June 2021.</p> <p>The Action Plan for Circular Economy describes the Danish targets, indicators, policies and initiatives in the entire circular value chain, which ranges from design and consumption to waste management, from which natural resources are recycled into new products and materials.</p>
Foreseen budget for implementation of the project	No specific budget for the implementation of the programme is included in the programme.

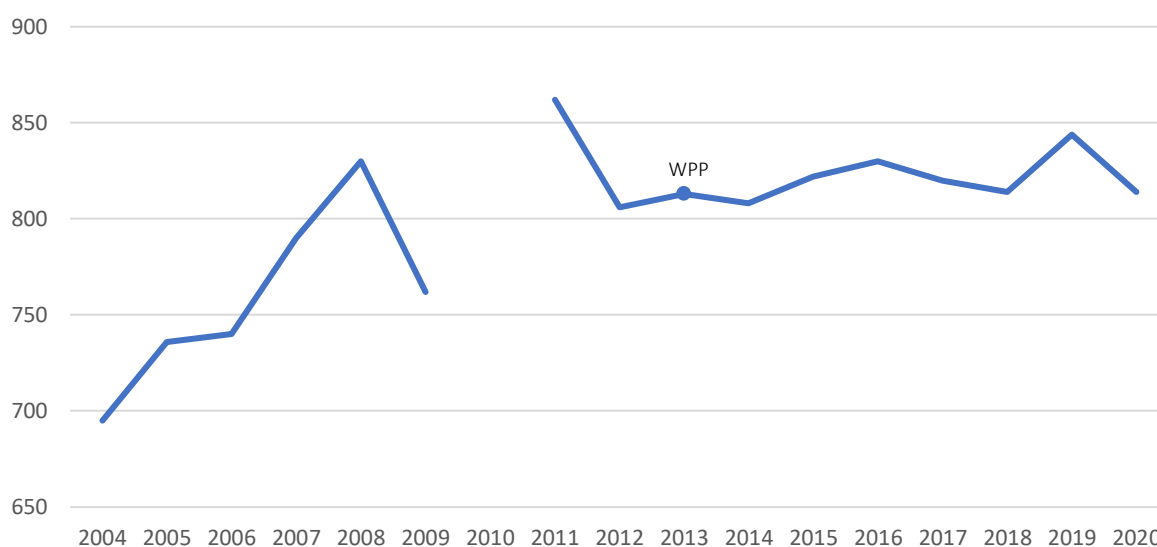
WASTE GENERATION

The following figures illustrate the progress towards waste prevention and decoupling of waste generation from economic growth in Denmark:

MSW

- The generation of municipal waste per capita (see Figure 1) increased from 740 kg per capita in 2006 and reached its maximum in 2011 with 862 kg per capita. The trend stagnated after 2011 and 2012-2019 waste generation has remained on the same level 810-840 kg/capita and year, and in 2020 this dropped somewhat to 814 kg. Denmark's waste generation is thereby one of the highest in Europe, compared to the 2020 per capita European average of 517 kg¹.
- The first WPP of Denmark came into force in 2013 and, although MSW generation is influenced by many factors (e.g. household expenditure), the prevention measures in that WPP might partially explain the stable trend in waste generation. To note is that household expenditure increased steadily during the same period², thus some decoupling effect may have occurred.

Figure 1: Municipal waste generation in Denmark (kg per capita), 2006-2020 (data unavailable in 2010)



Source: Eurostat [ENV_WASMUN]

Total waste

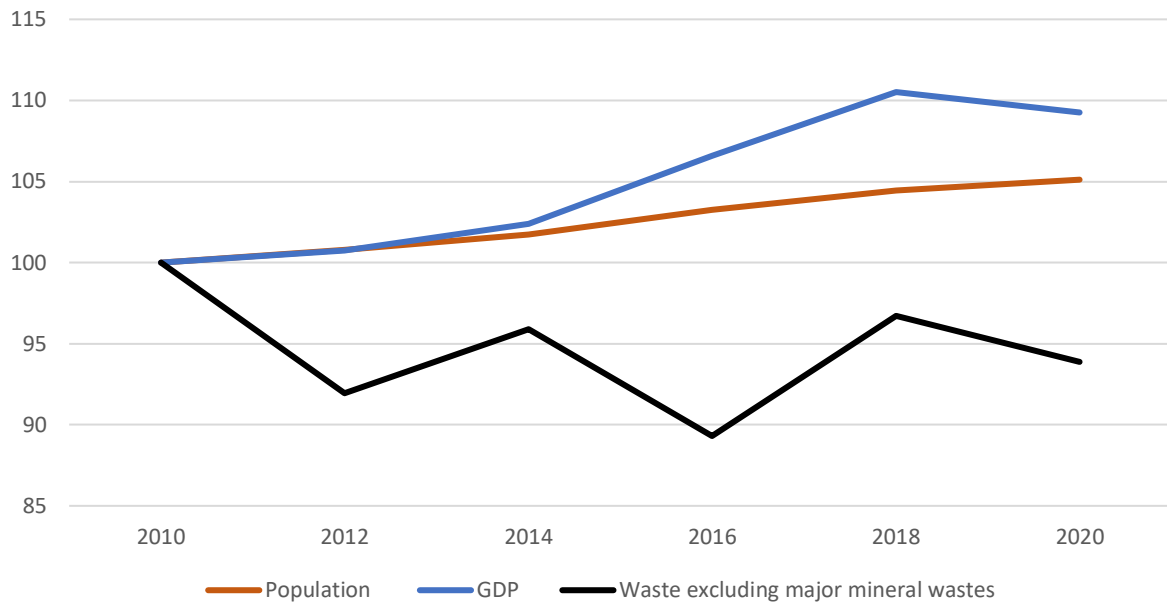
- Denmark's waste generation (excluding major mineral wastes) has fluctuated from 2010 to 2020 but decreased overall by 4% (see Figure 2). During the same period, Denmark's GDP grew steadily.
- Although a longer time series is needed to solidify a decoupling conclusion, Denmark seems to be on track to decouple total waste (excluding major mineral wastes) generation from economic growth since 2010.
- There may be slight decoupling between total waste (excluding major mineral wastes) generation and population growth, which grew slowly during the same period 2010-2020.

¹ Based on data collected from Eurostat in September 2022.

² <https://data.worldbank.org/indicator/NE.CON.PRVT.PP.KD?end=2019&locations=DK&start=2012>

- Based on the figure, one cannot notice a clear immediate impact of Denmark's first waste prevention programme (2013-) on total waste generation. The total waste (excluding major mineral wastes) generation is however lower in 2018 compared to 2010.

Figure 2: Growth rate of waste (excluding major mineral wastes), GDP (main GDP aggregates, chain linked), and population, 2010-2020, (2010=100).



Source: Eurostat [ENV_WASGEN, NAMA_10_PC, DEMO_GIND]

WASTE PREVENTION PROGRAMME

Objectives and priorities

1. Waste prevention objectives of the Programme - quantitative objectives (waste reduction) - qualitative objectives (reduction of hazardous substances/ environmental impacts)	The Danish Government is committed to ensure less waste and better use of natural resources by e.g.: <ul style="list-style-type: none">• Strengthen efforts to include circular economy in EU eco-design regulations• Introduce mandatory use of ecolabels in state procurement• decreasing the level of limescale in drinking water (leading to, among others extended durability for electronics and reduced consumption of cleaning agents)• Introduce mandatory use of total cost of ownership in state procurement• Create a clear framework for municipal second-hand shops
2. Sectors covered	the Action Plan for Circular Economy focuses on three areas with significant environmental and climate impact: <ul style="list-style-type: none">• biomass,• construction and• plastics
3. Priority waste types	<ul style="list-style-type: none">• biomass,• construction and• plastics
4. Target groups	The programme focuses on possible measures by public institutions, industry and households

Targets, indicators and monitoring

1. Indicators proposed	<p>Denmark's action plan for circular economy includes a number of indicators of which the following address waste prevention:</p> <ul style="list-style-type: none"> • Total waste sector CO₂e emission (mil. tonnes) • Less waste and better use of natural resources • Municipal waste per capita (kg) • Material footprint (RMC per capita) (tonnes) • Resource productivity (BNP/RMC) (DKK per kg) • Number of products and services with Nordic Swan Ecolabel • Turnover of products and services with Nordic Swan Ecolabel (billion DKK) • Circular material use rate (recycling and material recovery compared to DMC) • Climate footprint of public procurement (mill. tons CO₂e) • Significantly reduce the amount of marine waste • Reduce the amount of food waste in all parts of the food value chain • Reduce the environmental impact from construction and demolition <ul style="list-style-type: none"> ○ Proportion of constructions certified with the Nordic Swan Ecolabel, DGNB, LEED or BREEAM • Reduce consumption and improve reuse and recycling of plastics <ul style="list-style-type: none"> ○ Amount of marketed plastic packaging (1000 tonnes) ○ Amount of certain types of single-use products (tonnes) ○ Separate collection of plastic bottles
2. Quantitative targets	<p>Targets are set in accordance with EU target e.g.</p> <ul style="list-style-type: none"> • halving food waste generation until 2030, based on the SDG • Separate collection of plastic bottles >70 % in 2025 >90 % in 2029
3. Monitoring of programme	<ul style="list-style-type: none"> • waste intensity will be monitored based on annual reports by the German statistical office • share of reusable packaging is monitored by annual reports due to the German packaging law
4. Evaluation of the programme	<p>The implementation of the programme will be evaluated after six years. Based on the annual monitoring of the above outlined indicators, additional measures might be introduced in order to fulfil the indicated targets.</p>

Prevention measures

Implemented prevention measures according to Article 9

Table 1: Specific waste prevention measures structured according to Art 9 WFD

<p>Promote and support sustainable consumption models</p>	<ul style="list-style-type: none"> • Quality standards for green procurement and training in green procurement is developed (2021-). • All public procurement must be eco-labeled by 2030.
<p>Encourage the design, manufacturing and use of products that are resource-efficient, durable (including in terms of life span and absence of planned obsolescence), reparable, re-usable and upgradable.</p>	<ul style="list-style-type: none"> • A guide for design of reusable packaging was published on a multistakeholder platform in 2019 (plast.dk) • All public procurement to include total cost of ownership criteria.
<p>Target products containing critical raw materials to prevent that those materials become waste.</p>	<ul style="list-style-type: none"> • Denmark has set targets for separate collection of batteries, > 45% and waste electronics, > 65%. • The EPR organisation Elretur has established an experience exchange forum for municipalities and waste companies that either already work towards reuse in the field of electronics or aspire to it. • A major part of municipal waste centers organizes C2C exchange of used electronic good or make them available in their thrift shops³.
<p>Encourage the re-use of products and the setting up of systems promoting repair and re-use activities, including in particular for electrical and electronic equipment, textiles and furniture, as well as packaging and construction materials and products.</p>	<ul style="list-style-type: none"> • Analysis on whether a reduced VAT rate for repair activities und second hand products can be implemented. • The government will continue informing about options and benefits of reuse. • Donations for reuse will be deductible for tax purposes. • Collection of electronic products will be improved in order to support reuse; also cooperations with local reuse networks. • circle house project.
<p>Encourage, as appropriate and without prejudice to intellectual property rights , the availability of spare parts, instruction manuals, technical information, or other instruments, equipment or software enabling the repair and re-use of products without compromising their quality and safety.</p>	<ul style="list-style-type: none"> • Quality standards for second hand products as well as legal liabilities will be harmonized. • The government is committed to strengthen its efforts to include circular economy in EU eco-design regulations

³ <https://www2.mst.dk/Udgiv/publikationer/2020/01/978-87-7038-158-1.pdf>

<p>Reduce waste generation in processes related to industrial production, extraction of minerals, manufacturing, construction and demolition, taking into account best available techniques.</p>	<ul style="list-style-type: none"> • Denmark’s circular action plan’s one key sector is construction. • The government is committed to update the Building Regulations with elements from the voluntary sustainability class and introduce increasing limit values for climate footprint from buildings. It will also introduce requirements for standardised demolition plans. • Exchange platforms for construction elements and materials will be supported. • A specific obligation to explore prevention potentials in construction projects will be evaluated. • Modular construction enabling reuse of construction elements is piloted in the Circle House project.⁴
<p>Reduce the generation of food waste in primary production, in processing and manufacturing, in retail and other distribution of food, in restaurants and food services as well as in households as a contribution to the United Nations Sustainable Development Goal to reduce by 50 % per capita global food waste at the retail and consumer levels and to reduce food losses along production and supply chains by 2030.</p>	<ul style="list-style-type: none"> • The national strategy on food waste prevention will be implemented and further developed. • ONE\THIRD, a think tank operating as an independent organization under the Danish Ministry of Environment is managing ‘Denmark against food waste’, a voluntary agreement that unites 25+ food producers and retailers behind the shared mission to halve food waste by 2030. The members of the voluntary agreement co-develop a methodology and metrics to measure food waste reliably that is t ested. ONE\THIRD publishes a yearly report on general progress on preventing food waste and loss in Denmark. • Other governmental actions include provision of professional assistance to reduce food waste in retail.
<p>Encourage food donation and other redistribution for human consumption, prioritising human use over animal feed and the reprocessing into non-food products.</p>	<ul style="list-style-type: none"> • Options to support food donations will be developed in a specific working group with the federal states • A study on legal options to support food donations will be prepared. • Legal risks and liabilities for food donations will be minimized wherever possible.
<p>Promote the reduction of the content of hazardous substances in materials and products, without prejudice to harmonised legal requirements concerning those materials and products laid down at Union level, and ensure that any supplier of an article as defined in point 33 of Article 3 of Regulation (EC) No. 1907/2006 of the European Parliament and of the Council provides the information pursuant to article 33(1) of that regulation to the European Chemicals Agency as from 5 January 2021.</p>	<ul style="list-style-type: none"> • The government to introduce requirements to carry out an environmental and resource survey prior to demolition and major renovations. The survey will map the occurrence of contaminants and the possibility of re-use and recycling of the materials.

⁴ <https://stateofgreen.com/en/partners/3xn/solutions/designing-housing-for-disassembly-and-reuse/>

<p>Reduce the generation of waste, in particular waste that is not suitable for preparing for re-use or recycling.</p>	<ul style="list-style-type: none"> • Danish companies will need to pay for the waste disposal of packaging used for their branded products by 2025.
<p>Identify products that are the main sources of littering, notably in natural and marine environments, and take appropriate measures to prevent and reduce litter from such products, where Member States decide to implement this obligation through market restrictions, they shall ensure that such restrictions are proportionate and non-discriminatory.</p>	<ul style="list-style-type: none"> • The environmental organization Plastic Change works for combatting plastic pollution on a global scale. Accredited by UNEA, it works with major brands to reduce plastic packaging, single use cups, plastic bags and the use of microbeads. Based on voluntary work and grants, the organization has distributed knowledge on littering to more than 50 million people worldwide. • The EU Single Use Plastics Directive will be implemented. • EPR system to be introduced to Danish companies for packaging used for their branded products by 2025.
<p>Aim to halt the generation of marine litter as a contribution towards the United Nations Sustainable Development Goal to prevent and significantly reduce marine pollution of all kinds.</p>	<ul style="list-style-type: none"> • Introduce a ban on certain single-use plastics • Reduce the amount of specific forms of plastic take-away packaging by 50 % • Require recycling of a minimum of 60 % of collected plastic waste • Establish a research mission on recycling and reduction of e.g. plastic waste
<p>Develop and support information campaigns to raise awareness about waste prevention and littering.</p>	<ul style="list-style-type: none"> • Regional and local waste organisations have put up information centers linked to their recycling/waste centers. • A number of special purpose NGOs conduct information and awareness raising campaigns especially for preventing food waste and plastic packaging • Mind the trash -teaching material for school students in 4.-6. class on waste and resources. Website with eight teaching courses.

Additional implemented prevention measures, not covered by Article 9

Collection of used textiles
Denmark has a long tradition for used textile collection by charities and private actors. Recently municipal waste companies have begun collecting used textiles and textiles waste in civic amenity centres and via door-to-door collection. Some brands/retailers have also experimented with collection. Collection of used textiles from public institutions (hospitals etc. is minimal, as is collection of workwear from business.
In Denmark, collection of used textiles is not considered to be waste collection when the collector makes it clear that it only wishes to receive clean, reusable textiles. However, typically 20-30 % of collected textiles are not reusable but are directed to recycling. The Danish government and supporting parties agreed in June 2020 to require Danish municipalities to carry out the separate collection of textile waste from 2022⁵.

⁵ <https://www2.mst.dk/Udgiv/publications/2020/06/978-87-7038-202-1.pdf>

FOOD WASTE PREVENTION

Food waste generation

Denmark produces approximately 1,200,000 tonnes food waste from primary production, processing and manufacturing, retail, restaurants and households annually. The amount of food waste from households has decreased by 14,000 tonnes from 2011 to 2017. That is an average decrease in food waste of 8 % per household per week.

Measures to prevent food waste

ONE\THIRD, a think tank operating as an independent organization under the Danish Ministry of Environment and Food Their five focus areas are:

1. Support the civil society's battle against food loss and food waste
2. Contribute to general business opportunities relating to food waste prevention
3. Offer insights on how to overcome barriers to preventing food waste and food losses
4. Improve data collection and impact assessment
5. International cooperation on know-how and sharing of experiences

Their actions have been described in the previous table (Specific waste prevention measures structured according to Art 9 WFD)

The [REFOOD](#) label is a scheme for companies and organizations in the food and service sector, for minimising and recycling food waste. Membership requires to choose three food waste reduction initiatives and have a scheme for recycling food waste. In 2021, 1320 organisations hold the refood certificate.

Several food donor and food sharing programmes and organisations have emerged during the last years. The NGO [Stop Spild Af Mad](#) (“Stop Wasting Food”), the largest movement against food waste pushed for the first “National Day of Food Waste” celebrated on September 29, to raise awareness on the issue. The NGO has launched a food bank called GratisMad (“Free Food”), [Food Sharing Copenhagen](#) is also one of Denmark’s largest volunteer-led organisations working to raise awareness of and prevent food waste. Food Sharing Copenhagen has built relationships with local fruit and vegetable suppliers and wholesalers and large food sharing events take place once to twice a week

[Eat GRIM](#) (“Eat Ugly”) delivers food boxes of organic and “ugly” fruit and vegetables, which won’t fit supermarket’s beauty standards, nor the EU’s quality standards. By buying whatever farmers could not sell they have saved around 572 tons of food and created over \$1 billion income for farmers.

REUSE OF PRODUCTS

Data

With regard to the Commission Implementing Decision (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2021.010.01.0001.01.ENG&toc=OJ%3AL%3A2021%3A010%3ATOC), this section will be updated by the EEA accordingly.

Measures to support ReUse

In the frame of the EU TAIEX-EIR PEER 2 PEER programme, which provides tailored support to Member States' authorities implementing environmental policy and legislation Danish waste organisation has conducted study visits to learn from Belgium on how to create repair and reuse networks⁶.

⁶ <https://www.municipalwasteurope.eu/newsitem/denmark-belgium-taiex-eir-p2p-study-visit-experts-danish-municipal-waste-management-learn>

Aarhus area waste organisation supports reuse in their recycling center, where people can leave things they don't use anymore and pick up needed used items. Volunteers additionally host exhibitions, events and courses on waste and recycling. Depending on the season, citizens can come by and e.g. fix their bikes etc. The center has 300-350 visitors a day and a yearly turnover of ca 500 tons of objects, furniture, saving ca 550 tons CO₂. Each year, about 50 school classes visit REUSE to take part in an interactive education. Moreover, students moving to Aarhus in August can get a free "move-in box" including table ware, pots and pans. Cargo bike are available for free when need to transport bigger objects

The smartphone app 'kleen hub' allows restaurants to lend their customers reusable stainless steel boxes and coffee mugs instead of using compostable or plastic food containers. Customers can borrow the boxes for up to 10 days and without any cost unless the box is not returned.

In collaboration between City of Copenhagen, some NGOs and the industry a guide for reuse and recycling of plastic consumer packaging has been published. It contains considerations when choosing reuse as a business model and design parameters for reuse and reuse case studies⁷.

A collaboration between a major Danish Brewery and four of Denmark's largest music festivals replaces 2 million disposable plastic cups with reusable cups that can be washed and reused. Previously the four festivals formerly served drinks in more than 2 million disposable plastic cups during the music festivals. Now, the beverages will be served in reusable cups that are collected after use. Then they are washed in a huge, mobile dishwasher that can wash 9,000 cups an hour, which allows the cups to be reused during the festivals.

The Knowledge Centre for Circular Economy in Construction guides building owners, contractors, advisers and municipalities on recycling of C&D waste and on problematic substances in rebuilding, renovation and demolition.

The advisory board on circular economy has drawn up a number of innovative recommendations for the building sector which are now being implemented. The following actions relate to reuse:

- additional information requirements for amounts of reused, recycled and recyclable materials and for undesirable substances in new buildings and large renovation projects from 2020, with a voluntary sustainability classification system for buildings becoming mandatory in 2025
- a standardised, freely available digital building passport, plus a product database for suppliers with digital factsheets for building products
- a selective demolition plan to identify materials and the content of hazardous substances, assess materials' recycling/reuse value and specify demolition methods⁸.

Best practice examples

Support for reuse at municipal recycling stations

Municipal recycling stations receive large amounts of waste, which can be prepared for reuse and recycling, including furniture and other furniture, textiles, building materials and electronics. However, only part of these fractions are actually reused/recycled, as their appeal is in practice not high enough for the potential next user. Thus, it is not always economically attractive for the municipal waste companies to prepare such products for reuse/recycling. To recovery as much as possible with a practical value, some recycling stations train employees to be able to assess the value of the products used so that these employees can sort the saleable items for their own second-hand shops. Several recycling stations carry out sorting and cleaning of many products before these go on to reuse. A number of recycling stations also repair incoming products (e.g. furniture and white goods) which are sold in their thrift stores. Some recycling stations also has barter markets where

⁷ Network for circular plastic packaging. 2019 Design Guide. Reuse and recycling of plastic packaging for private consumers. <https://plast.dk/wp-content/uploads/2019/12/Design-Guide-Reuse-and-recycling-of-plastic-packaging-for-private-consumers-english-version-1.pdf>

⁸ <https://www.oecd-ilibrary.org/sites/d1eaba4-en/index.html?itemId=/content/component/d1eaba4-en>

customers can return products for customer-customer reuse. Moreover, several municipal recycling stations collect for other actors, including charities which then organise further recycling and reuse (e.g. textiles).

Food Sharing Copenhagen

Food Sharing Copenhagen is a voluntary based organisation for utilising non-sold food in Copenhagen. In 2019 their collective efforts helped save over 13,000 tons of food waste and nourish over 16,000 people. Every week, they collect surplus food from businesses, including bread and dry goods that would have been thrown out to waste and share it with hundreds of people.

The food sharing events take place once to twice a week thanks to a significant number of volunteers. In contrast to most other similar social activities Food sharing Copenhagen was able to keep up its activities also during the pandemic. Under their principles of unconditional sharing, Food Sharing Copenhagen doesn't make a distinction between those who are accessing the services based on financial disadvantage or those who are simply making an ethical choice.

Links to circular economy

Waste prevention is an integral part of the comprehensive transformation towards a circular economy. It reduces the input of natural resources into the economy as well as the necessary efforts to collect and recycle waste.

Approaches for improving circularity are often highly interlinked with successful waste prevention. The following table shows which circular strategies are explicitly integrated into the German waste prevention programme.

Topic	Addressed in the programme	Comments
Eco-design	Yes	Inter alia by supporting EU eco-design regulation
Repair, refurbishment and remanufacture	Yes	E.g. guided t is organised linked to some municipal waste centers' activities .
Recycling	Yes	Recycling of municipal waste is covered in the Danish waste management law. Increased recycling of biomass and construction waste are foci in Denmark's circular economy action plan.
Economic incentives and finance	Yes	Inter alia by assessing how waste prevention can be included in eco-modulated packaging fees.
Circular business models	Yes	E.g. multi-stakeholder platforms for business models aiming to prevent food waste throughout the food chain
Eco-innovation	Yes	E.g. project on construction for disassembly.
Governance, skills and knowledge	Yes	E.g. by integrating waste prevention into comprehensive school curriculum. Training in green procurement for public procurers.